SOFREL Water Product Portfolio

Connected equipment for water networks

LACROIX

Our commitment to the SMART ENVIRONMENT: The best technology at the service of the **environment**

The water supply is a major challenge for our planet.

Water networks are rich ecosystems that need to be monitored and automated to protect our natural resources.

SMART **WATER**

IIOT

SMART **ENVIRONMENT**

SMART **DATA**

THE BENEFITS OF THE SMART ENVIRONMENT

REDUCE COSTS

- **Reduce routine visits** and meter reading rounds
- **Optimize the operation** of electrical components (pumps, motors, etc.) so that they run during the most economical billing periods
- **Facilitate maintenance** by continuously monitoring the operation of your installations
- **Optimize travel and operating costs**

SECURE YOUR FACILITIES

- **Receive alerts** about any network failures 24/7
- Have a **permanent overview** of all your operations
- **Save** all operating data
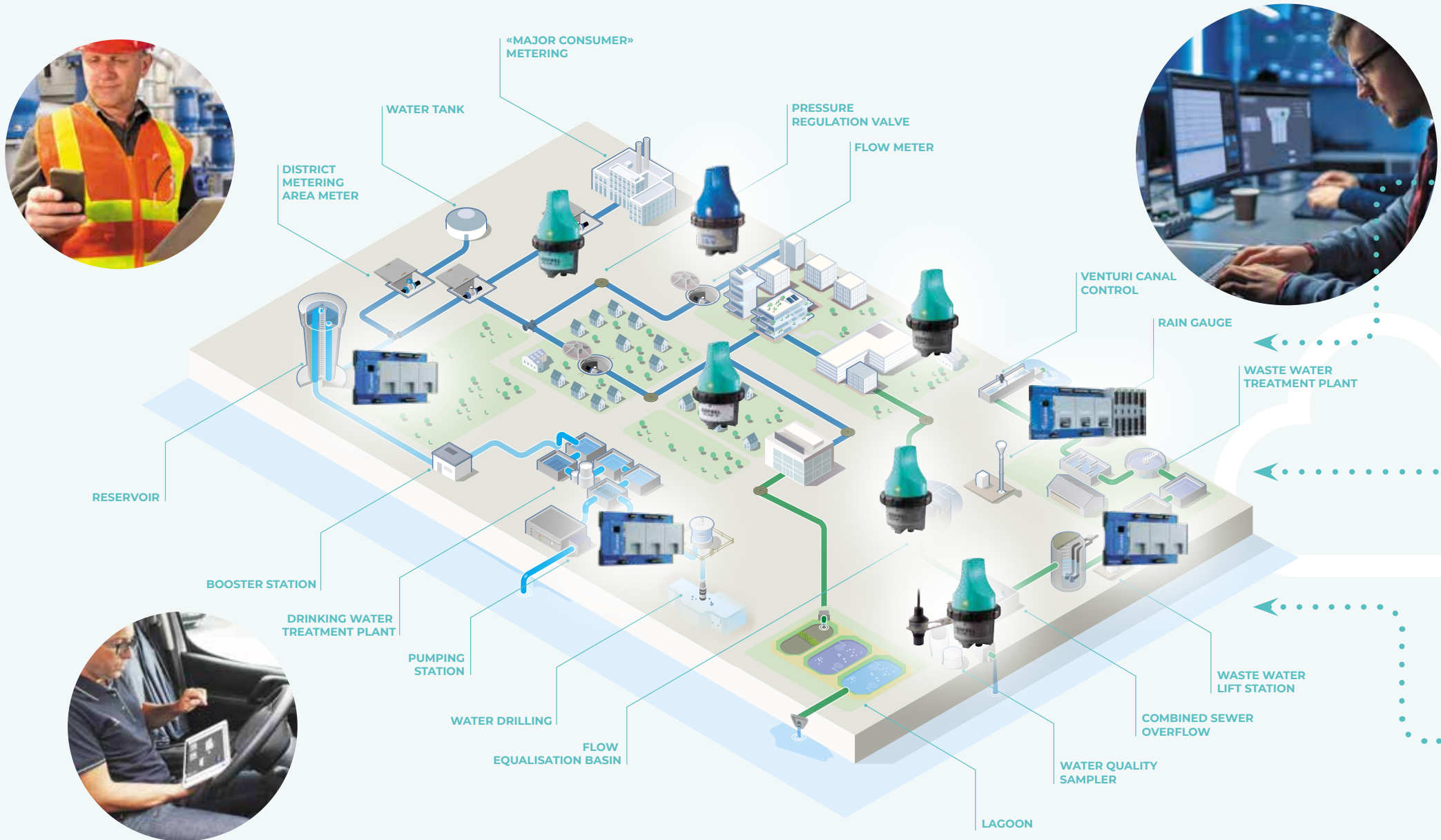- **Monitor** and **secure** access points

PROTECT THE ENVIRONMENT

- Check for any discharge into the **natural environment**
- Reduce **energy consumption**
- Promote the development of **renewable energy**
- Save on **natural resources** (reducing leaks, etc.)
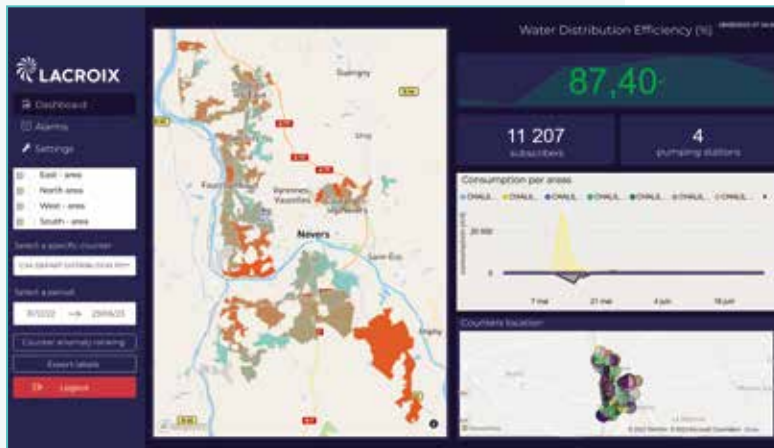- **Prevent risks** (flooding, pollution, etc.)

IMPROVE YOUR SERVICE

- Be **immediately** alerted in the event of a breakdown, allowing you to intervene quickly
- **Anticipate** wear-related problems by monitoring equipment run times
- Have **back-up automation** systems available in the event of equipment failure
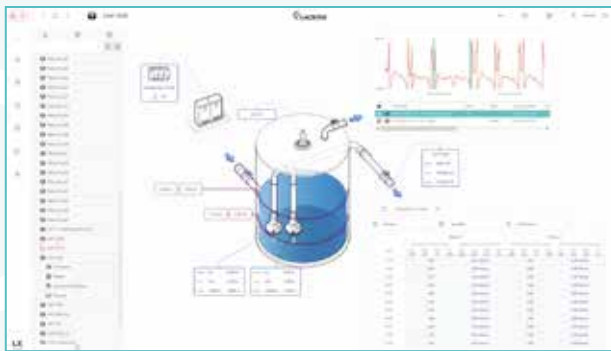- **Ensure continuity** of service to your customers

IIOT EQUIPMENT FOR THE SMART ENVIRONMENT

«MAJOR CONSUMER» METERING

WATER TANK

PRESSURE REGULATION VALVE

FLOW METER

DISTRICT METERING AREA METER

VENTURI CANAL CONTROL

RAIN GAUGE

WASTE WATER TREATMENT PLANT

RESERVOIR

BOOSTER STATION

DRINKING WATER TREATMENT PLANT

PUMPING STATION

WATER DRILLING

FLOW EQUALISATION BASIN

WASTE WATER LIFT STATION

COMBINED SEWER OVERFLOW

WATER QUALITY SAMPLER

LAGOON

Control, management, and centralized management of hydraulic installations

- Alarm Management
- Remote Control
- Data Recording
- Supervision
- Data Analytics
- Predictive Action

ISSUES AND CHALLENGES FACING WATER OPERATORS

EVOLUTION OF ARCHITECTURES

Migration to an all-IP environment

Redefining historical telemetry architectures

New deployment and hosting possibilities for business applications

Cybersecurity requirements and implementation

EQUIPMENT FLEET MANAGEMENT

Knowledge & Monitoring

Challenges in effectively monitoring and tracking equipment fleet status

Software updates needed for deploying new software versions and applying the latest security patches

MOBILE NETWORK OPERATION

"Everywhere at any time"

4G communication and web server

Equipment management

Alarm management

Business data analysis

RESOURCE PRESERVATION

Monitoring & Optimization

Reducing potable water losses

Controlling and limiting wastewater discharges

Reducing energy consumption at sites

FLOWRIZON: DIGITAL SOLUTION FOR WATER NETWORK PERFORMANCE

LX CONNECT

Platform for centralized management of SOFREL S4W

- Cybersecurity automation
- Monitoring of deployed SOFREL S4W
- Orchestrating equipment software updates

LX SCADA

Supervision and control of water networks

- Full web and interoperable offering
- Facilitated configuration and management
- Ready-to-use business functions

AQUAWIZE

Performance monitoring of the drinking water network

- Monitoring of drinking water network performance Dynamic dashboards for sector and DMA point performance monitoring
- Integration of subscriber meter data
- Daily anomaly detection

SOFREL S4W: REMOTE TERMINAL UNITS

SOFREL S4W

Advanced cybersecurity and smart RTU for water networks utilities

- Remote management, archiving and balance sheets
- Integrated communication interface
- Graphical "Wastewater lift station"
- Integrated HTML5 web server
- Integrated mimics diagram editor
- Integrated automation
- Communication media redundancy
- Inter-site M2M communication
- Advanced ecosystem for cybersecurity

SOFREL YDRIX

State-of-the-art RTU for monitoring and process control of water facilities

- Remote management and archiving
- Integrated communication interface
- DNP3 & IEC compliant
- Dedicated water features
- Integrated automation
- Communication media redundancy
- Inter-site M2M communication
- Cybersecurity
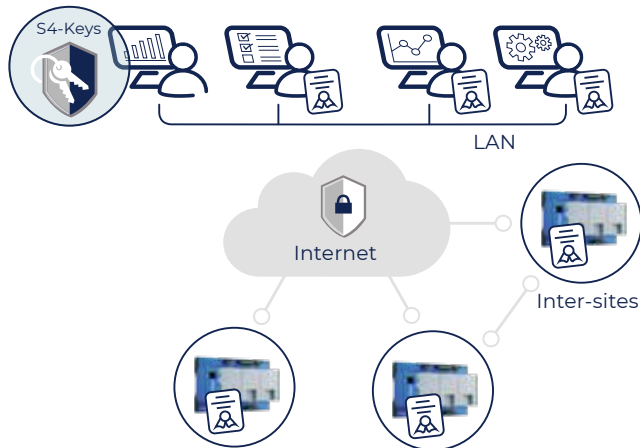
S4W ECOSYSTEM: SECURE AND EASY TO MANAGE

SOFREL SG4000

- Secure GPRS communication between SOFREL telemetry and SCADA devices
- Creation of a VPN
- IP address distribution

SOFREL S4-KEYS

- Certification authority for all software and RTUs in the telemetry network
- Certificate issuing and management

S4-Keys

LAN

Internet

Inter-sites

SOFREL S4 MANAGER

- User management
- Saving and sharing configurations of SOFREL S4W

User administration

Sharing configurations

Configurations backup

IIOT DATA LOGGERS FOR MONITORING DRINKING WATER NETWORKS

SOFREL LS10
Remote meter reading and district metering

- Index reading and network district metering
- Remote metering for "major consumers"
- District Metering Area
- Detecting metering anomalies
- Leak detection
- Flowrate calculation

SOFREL LS42
Remote meter reading and pressure monitoring

- Index reading and network district metering
- Remote metering for "major consumers"
- District Metering Area
- Detecting metering anomalies
- Flowrate calculation and leak detection
- Pressure measurement and monitoring
- Quality settings control

SOFREL LS-P
Pressure measurement and monitoring

- Monitoring of Pressure Reduction Valves, stabilisers and regulator operations
- Measuring and monitoring the level of service quality (pressure)

SOFREL LS-Flow
Remote reading of flow meters and District Metering Area

- Electromagnetic flow meter remote reading and diagnostics
- Flow and pressure monitoring
- Leak detection
- Monitoring of "major consumers" flow
- District Metering Area

SOFREL OpenSensor LP
Remote flow meters and Modbus instrumentation

- Communication via RS-485 Modbus RTU link with flow meters and measurement, up to 8 sensors
- Remote power supply 0.8W max at 5V or 12V or inhibited at 0V as required
- Remote reading of meters or interconnection meters
- Pressure monitoring

SOFREL LS-V
Pressure management and regulation

- Monitoring of Pressure Reduction Valves, stabilisers and regulator operations
- Measuring and monitoring the level of service quality (pressure)
- Programmed control of a two-stage control valve

IIOT DATA LOGGERS FOR THE SELF-MONITORING OF WASTEWATER NETWORKS

SOFREL LT42
Continuous diagnosis and monitoring of water quality

- Detection of overflows in Combined Sewer Overflow
- Calculation and recording of evacuated flows and volumes
- Control of an autonomous sampler
- Rain intensity calculation
- Detection of polluting incidents

SOFREL OpenSensor HP with US sensor
Level measurement and instrumentation monitoring ModBus

- Communication via RS-485 link Modbus RTU with instrumentation, up to 8 sensors
- Level measurement by sensor Ultrasonic
- Remote power supply 2W at 12V or 20V
- Self-monitoring and permanent diagnostics of wastewater networks

SOFREL LT-US

Overflow and flow monitoring by ultrasound probe

- Level measurement by ultrasound probe
- Detection of overflows in Combined Sewer Overflow
- Calculation and recording of evacuated volumes
- Control of an autonomous sampler
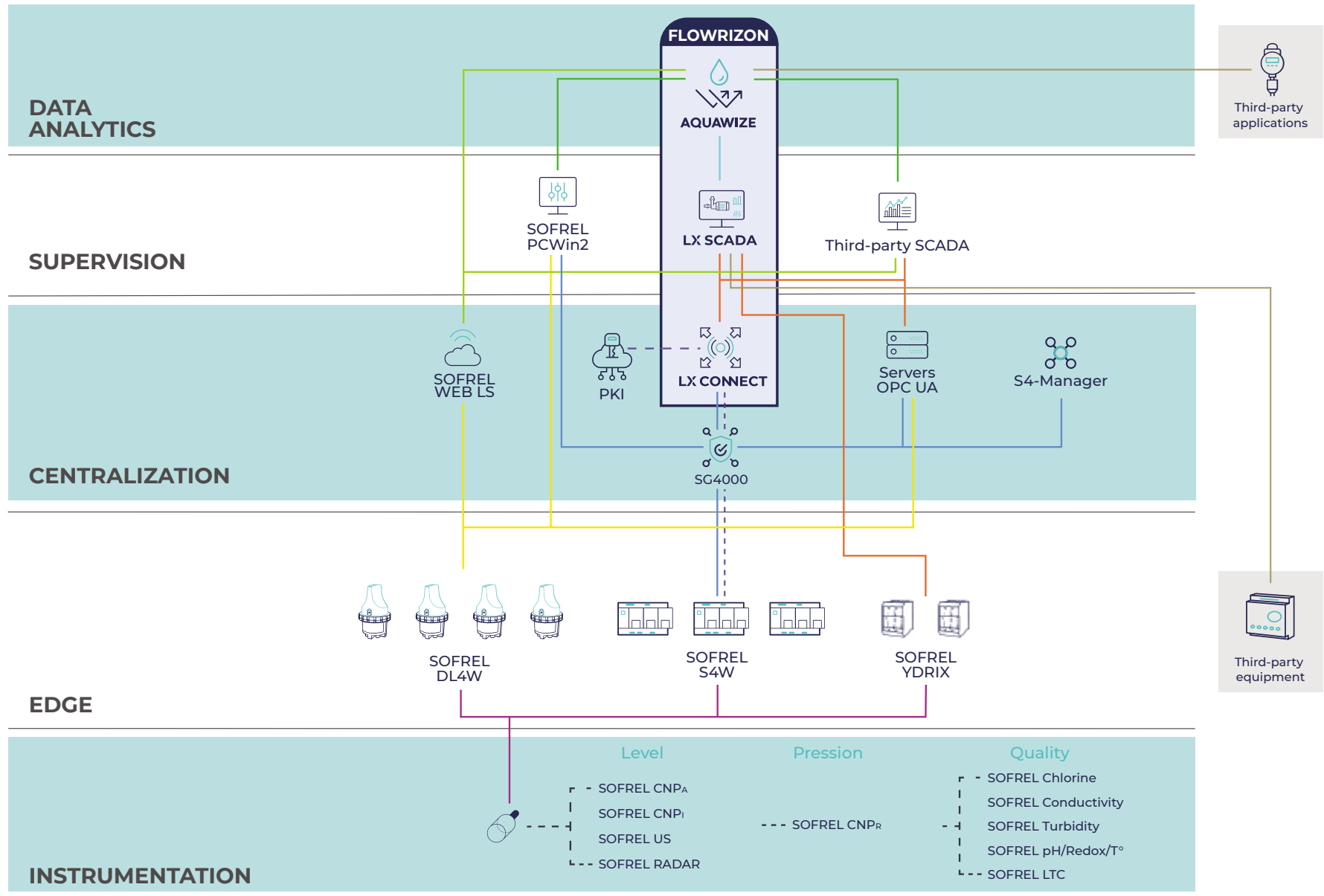- Rain intensity calculation

SOFREL LT-US ATEX

Overflow and flow monitoring in explosive atmospheres

- Level measurement by ultrasound probe
- Detection of overflows in Combined Sewer Overflows
- Calculation and recording of evacuated volumes
- Installation in ATEX zones

LACROIX SOLUTIONS FOR WATER NETWORK PERFORMANCE

DATA ANALYTICS

FLOWRIZON

AQUAWIZE

Third-party applications

SUPERVISION

SOFREL PCWin2

LX SCADA

Third-party SCADA

CENTRALIZATION

SOFREL WEB LS

PKI

LX CONNECT

Servers OPC UA

S4-Manager

SG4000

EDGE

SOFREL DL4W

SOFREL S4W

SOFREL YDRIX

Third-party equipment

INSTRUMENTATION

Level	Pression	Quality
SOFREL CNP$_A$	SOFREL CNP$_R$	SOFREL Chlorine
SOFREL CNP$_I$		SOFREL Conductivity
SOFREL US		SOFREL Turbidity
SOFREL RADAR		SOFREL pH/Redox/T°
		SOFREL LTC

DATA CENTRALISATION, ARCHIVING AND MANAGEMENT

FLOWRIZON: LACROIX's digital offering for water network performance

LX CONNECT

IIoT platform for centralized management of local SOFREL S4W station fleet and cybersecurity automation

LX SCADA

LACROIX full-web and interoperable supervision solution for controlling and monitoring SOFREL or third-party telemetry equipment networks

AQUAWIZE

Data analysis service for monitoring the performance of drinking water networks

SOFREL OPC UA/DA

Server compliant with OPC UA or DA standards for communication and data exchange with industrial supervisors and hypervision solutions

SOFREL FR4000

Communication interface between SOFREL telemetry equipment and industrial supervisor or SOFREL PCWin2 SCADA central station2

SOFREL WEB LS

Secure Cloud solution for hosting, centralizing and utilizing data from SOFREL RTU and SOFREL Data Loggers

SOFREL PCWIN2

SCADA central station for data management from SOFREL RTU and data loggers

INSTRUMENTATION FOR WATER NETWORK MONITORING

Level measurement

- **SOFREL CNPI**
  Submersive sensor for drinking water level measurement

- **SOFREL CNPA**
  Submersive sensor with a ceramic membrane for waste water level measurement

- **SOFREL CSV**
  Overflow detection sensor

- **SOFREL RADAR**
  Radar sensor for non-contactlevel measurement

Pressure measurement

- **SOFREL CNPr**
  Stainless steel pressure sensor

Quality measurement

- **SOFREL Chlorine**
  Online chlorine measurement solution in the drinking water distribution network

- **SOFREL LTC**
  Measurement of groundwater level and quality

- **SOFREL TURBIDITY**
  Measurement of turbidity in wastewater and natural waters

- **SOFREL CONDUCTIVITY**
  Measurement of conductivity in wastewater and natural waters

- **SOFREL PH/REDOX/T°**
  Measurement of pH, redox, and temperature in wastewater and natural waters

ACCESSORIES AND EXTERNAL COMPONENTS

HMI PC panel and displays
- Display of data points on cabinet front panel
- Interactive graphical display
- Easy to install

Protective devices
- Power supply surge arresters
- Analogue input surge arresters
- Communication media surge arresters

Actuator/Solenoid
- Pressure Regulation Valve control
- Very low energy consumption

Access control
- Access identification and traceability
- Identification of persons
- Access management

Communication
- External GSM/GPRS modem
- Radio transmitter/receiver with or without licence
- Omnidirectional and directional antennas

Power supply
- Power supply units and energy converters
- Emergency batteries for remote terminal units
- Lithium batteries for data loggers

Accessories
- Wall bracket and deflector for LT-US probe
- Lock code and activation code for data loggers
- Watertight connection kits

SERVICES

Project feasibility study and follow-up

· Dedicated technical sales service for project feasibility studies
· In-depth research to find the most suitable solutions
· Customisation of offers according to your desired applications
· Advice for the implementation and running of the proposed products

Training

· Approved training organisation
· Experienced team of trainers
· Training sessions available in France and abroad
· More than 800 trainees are welcomed each year for training sessions of 2 to 5 days and limited to a maximum of 8 participants
· Training programmes and timetables available at www. lacroix-sofrel.com
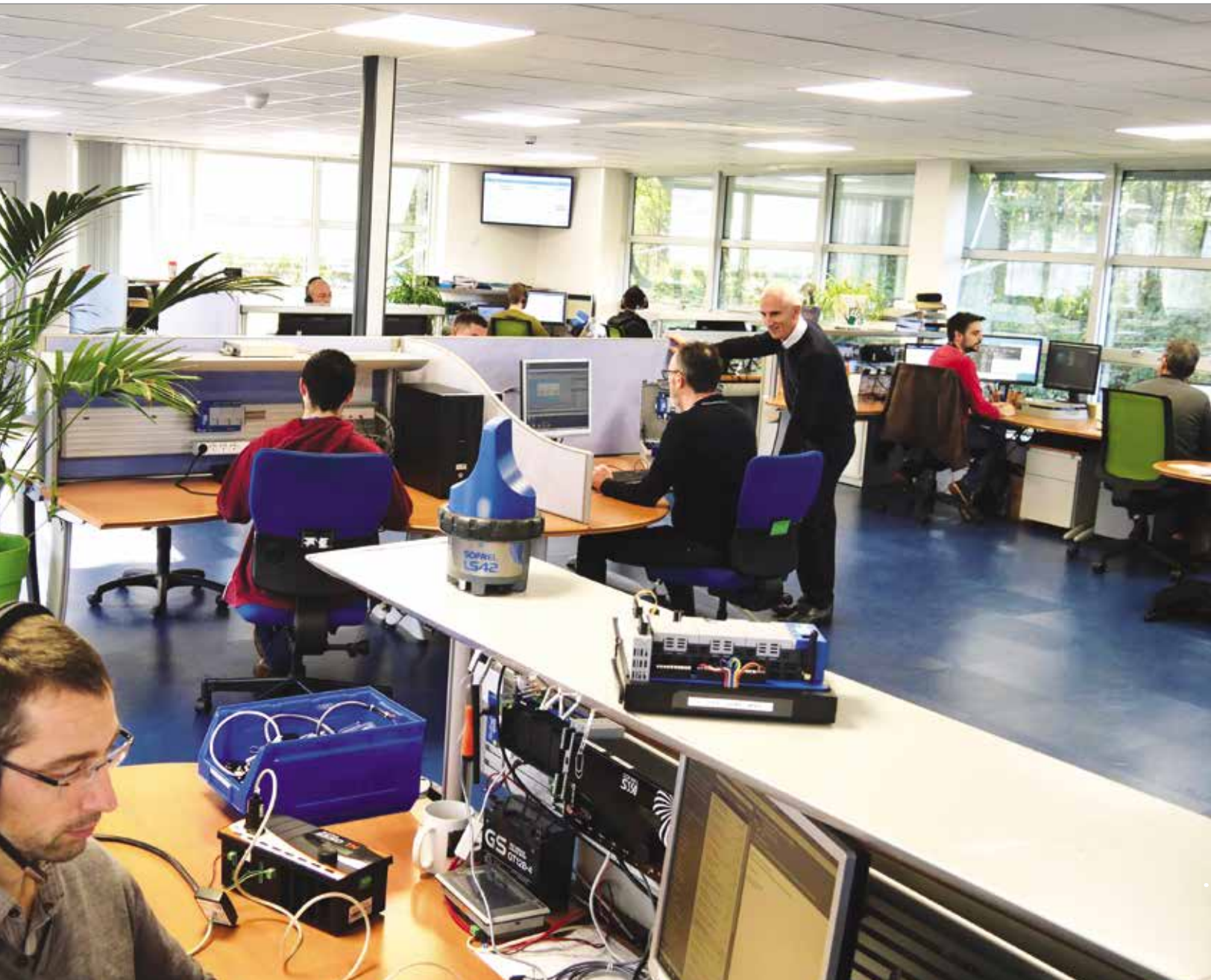
After-sales service

· 3-year warranty on all products
· Returning products to our After-Sales Service department is made easy with the anomaly description sheet which can be downloaded on the website.
· Your product is examined within 48 hours by After-Sales Service technicians
· Your product will then be replaced or repaired depending on the problem encountered
· Traceability of all maintenance interventions

Start-up assistance

· Start-up assistance for telemetry and SCADA equipment
· Call-out service available for assistance in configuring a telemetry and SCADA network
· A set-up service by a LACROIX Sofrel technician or one of our certified partners is available

FREE HOTLINE

+33 (0)2 99 04 89 00

A team of specialised technicians with perfect knowledge of the constraints of the field and all LACROIX Sofrel products

We are **always on-hand** to respond to any incident or question

Remote connection possible to carry out **remote diagnostics**

More than 90% of calls to the Hotline are **resolved directly and quickly** by phone

CONNECTED
TECHNOLOGIES
FOR **SMARTER**
WATER &
ENERGY

LACROIX - Environment
2, Rue du Plessis
35770 Vern-sur-Seiche · France
Tél : +33 (0)2 99 04 89 00
info.environment@lacroix.group

www.lacroix-environment.com